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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,638	11/24/2003	Bunya Sato	09792909-5715	7696

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EXAMINER

KITOV, ZEEV V

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,638

Applicant(s)

SATO, BUNYA

Examiner

Zeev Kitov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4 - 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 - 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner acknowledges a submission of the amendment and arguments filed on July 5, 2006. Claims 1 – 3 are deleted; Claim 4 is amended. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukainakano (US 6,150,797) in view of Mitkin et al. (US 6,403,261). Regarding Claim 4, Mukainakano following elements of the Claim, including a battery pack having at least a battery cell and a protection circuit (114) for shutting off overcurrent discharge, wherein the protection circuit includes: shut-off holding means (109) of a resistor block connected between a battery cell positive terminal and an external minus terminal, and a detector for detecting voltage between an external plus terminal and the external minus terminal wherein abnormal discharge by shorting or connecting a low resistance between the external plus terminal and the external minus terminal of the battery pack is shut off, and such discharge shut-off is maintained by the shut-off holding means; and the discharge shut-off (125) is released to recover discharge upon detecting by the

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detector the application of a predetermined voltage between the external plus terminal and the external minus terminal of the battery pack (see col. 5, lines 22-33). However, it does not disclose the value of the discharge resistance being larger than 1 kohm and smaller than 200 kohm. Mitkin et al. disclose the battery cell (col. 1, lines 18 – 21), which during operation is being subjected to discharge through 30-kohm resistance (col. 4, lines 11 – 16) and for tests is being subjected to discharge through 5.6 and 10-kohm resistance (col. 18, lines 40 – 42). The reference has the same problem solving area, namely providing battery cells as a source of energy. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Mukainakano solution by setting the discharge resistance to a value of 5.6, 10 or 30 kohm according to teachings of Mitkin et al., because the following reasons: (1) any of the recited resistance values can be selected in order to precisely choose the current limit when the circuit is deciding whether to turn on or off the discharging control; (2) the value of the discharge resistance should be selected not too high to accelerate the discharge, but not too small to avoid excessive self-discharge of the battery; the value of the discharge resistance is therefore a result effective variable. Accordingly, the Court Decision *In re Aller*, is applicable, which states: "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding Claim 5, Mukainakanu discloses in figure 1, wherein the detector is one of a charger detector, a voltage detector, a voltage change detector, an A.C. resistance

detector, and a voltage dropper (col. 5, lines 22 - 33).

Regarding Claim 6, Mukainakano discloses in figure 1, wherein the detector is connected to one of a differentiation circuit, and an one-shot circuit (col. 5, lines 22 - 52).

Regarding Claim 7, Mukainakano discloses in figure 1, wherein the discharge shut-off by the shut-off holding means is made by a discharging control switch (112) connected between the battery cell negative terminal and the external minus terminal (col. 3, lines 32 - 38).

Regarding Claim 8, Mukainakano discloses in figure 1, wherein the discharge shut-off by the shut-off holding means is made by a discharging control switch connected between the battery cell positive terminal and the external plus terminal (col. 3, lines 32 - 38).

Response to Arguments

Applicant's Arguments have been given careful consideration but they are now moot in view of new grounds of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

Z.K.
7/31/2006



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